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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
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OLIFF & BERRIDGE, PLC
P.O. BOX 19928
ALEXANDRIA, VA 22320

EXAMINER

KIM, PAUL D

ART UNIT PAPER NUMBER

3729

DATE MAILED: 07/07/2005

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.

10/663,903

Applicant(s)

SASAKI, YOSHITAKA

Examiner

Paul D. Kim

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --
Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 17 May 2005.
2a) ☐ This action is FINAL. 2b) ☒ This action is non-final.
3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-27 is/are pending in the application.
4a) Of the above claim(s) 11-15 and 20-27 is/are withdrawn from consideration.
5) ☐ Claim(s) _____ is/are allowed.
6) ☒ Claim(s) 1-10 and 16-19 is/are rejected.
7) ☐ Claim(s) _____ is/are objected to.
8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☒ The specification is objected to by the Examiner.
10) ☒ The drawing(s) filed on 17 September 2003 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
a) ☒ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
2. ☒ Certified copies of the priority documents have been received in Application No. 09/708,628.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892)
2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3) ☒ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)
Paper No(s)/Mail Date 9/17/03, 1/07/04.
4) ☐ Interview Summary (PTO-413)
Paper No(s)/Mail Date. _____
5) ☐ Notice of Informal Patent Application (PTO-152)
6) ☐ Other: _____

DETAILED ACTION

This office action is a response to the election of species filed on 5/17/2005.

Response to the Election of Species

1. Applicant's election with traverse of Species A, drawn to Figs. 1A and 1B, claims 1-10, 17 and 20-25, in the reply filed on 5/17/2005 is acknowledged. The traversal is on the ground that the search and examination of the entire application could be made without serious burden. This is not found persuasive because Species B, drawn to Figs. 14A and 14B has a special technical feature such that the second magnetic layer portion terminates on the slope of the insulating film and the insulating layer includes another insulating film formed to fill a space over the insulating film up to the same level as a top surface of the second magnetic layer portion as per claim 11 and species C, drawn to Figs. 23A and 23B has a special technical feature such that other magnetic layer of the two magnetic layers includes a fourth magnetic layer portion with a flat surface, and a fifth magnetic layer portion located facing the first and second magnetic layer portions with the gap layer in between (as per claims 12-15) and an insulating film is formed on the gap layer with a flat surface, the insulating film having a slope towards the surface of the gap layer and constituting at least a part of the insulating layer (as per claims 20-27). Therefore, the claims for the elected Species A, drawn to Figs. 1A and 1B, are claims 1-10 and 16-19. The requirement is still deemed proper.
2. Claims 11-15 and 20-27 are withdrawn from further consideration pursuant to 37 CFR 1.142(b), as being drawn to a nonelected invention, there being no allowable

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generic or linking claim. Applicant timely traversed the restriction (election) requirement in the reply filed on 5/17/2005.

Specification

3. The disclosure is objected to because of the following informalities: After the phrase "the write track width" in line 13, the phrase "o f" should be --of--.

The lengthy specification has not been checked to the extent necessary to determine the presence of all possible minor errors. Applicant's cooperation is requested in correcting any errors of which applicant may become aware in the specification.

Appropriate correction is required.

4. The title of the invention is not descriptive. A new title is required that is clearly indicative of the invention to which the claims are directed.

The following title is suggested: --A METHOD OF MANUFACTURING A THIN FILM MAGNETIC HEAD--.

Claim Objections

5. Claim 5 is objected to because of the following informalities: The phrase "the length" as recited in line 2 appears to be --a length--. Appropriate correction is required.

Claim Rejections - 35 USC § 102

6. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

7. Claims 1-10, 16, 18 and 19 are rejected under 35 U.S.C. 102(b) as being anticipated by Chang et al. (US PAT. 5,805,391).

Chang et al. teach a process of making a thin film magnetic head comprising steps of: forming a first magnetic layer portion (164) extending from recording-medium-facing surface (ABS) in a longitudinal direction to be away from the recording-medium-facing surface, and having a constant width for defining a write track width of a recording medium; and forming a second magnetic layer portion (142) magnetically coupled to the first magnetic layer portion in the rear edge of the first magnetic layer portion on the side away from the recording-medium-facing surface as shown in Fig. 12; wherein a coupling position (flare point) at which the first and second magnetic layer portion are coupled each other is closer to the recording-medium-facing surface than a front edge of the insulating layer (160 as shown in Fig. 11) on the side close to the recording-medium-facing-surface; and at least the portion of the second magnetic layer portion between the front edge of the insulating layer and the rear edge of the first magnetic layer portion has a width wider than that of the first magnetic layer portion as shown in Fig. 12 (see also col. 7, line 57 to col. 8, line 40).

As per claim 2 a width direction is formed at the coupling position of the first magnetic layer portion and the second magnetic layer portion as shown in Fig. 12.

As per claim 3 a step face vertical to an extending direction of the first magnetic layer portion is formed at the coupling position as shown in Fig. 12.

As per claim 4 a magnetic transducer film (52) extending from the recording-medium-facing surface in a longitudinal direction to be away from the recording-medium-facing surface wherein the coupling position is located between the rear edge of the magnetic transducer film and the front edge of the insulating layer as shown in Fig. 11.

As per claim 5 a length from the recording-medium-facing surface to the front edge of the insulating layer lies within the range of one-and-a-half to six times the length of the magnetic transducer film as shown in Fig. 11.

As per claim 6 the one of the two magnetic layers further includes a third magnetic layer portion (144) which is magnetically coupled to the second magnetic layer portion and extends to cover a part of the thin film coil with the insulating layer in between as shown in Fig. 12.

As per claim 7 the gap layer (132) has a region with a flat surface and the thin film coil is formed on the flat region of the gap layer and the insulating layer (12) includes an insulating film (13) which covers the whole of the thin film coil and a part of the gap layer as shown in Fig. 11.

As per claim 8 the position of the front edge of the insulating layer is defined by an edge of the insulating film on the side closer to the recording-medium-facing surface as shown in Figs. 11 and 12.

As per claim 9 the first magnetic layer portion is located on a part of the region with a flat surface of the gap layer and the part of the region being not covered with the insulating film as shown in Fig. 11.

As per claim 10 the surface of the insulating film on the side closer to the recording-medium-facing surface forms a slope towards the surface of the gap layer and the second magnetic layer portion extends from the coupling position onto the slope of the insulating film as shown in Fig. 11.

As per claim 16 the first and second magnetic layer portions are integrally formed in one piece through a series of the manufacturing steps as shown in Fig. 12.

As per claim 18 the first and second magnetic layer portions are integrally formed in one piece through a series of the manufacturing steps and the third magnetic layer portion is formed separately from the first and second magnetic layer portions through a manufacturing step different from the steps of manufacturing the first and second magnetic layer portions as shown in Figs. 11 and 12.

As per claim 19 the third magnetic layer is formed so that the third magnetic layer extends overlapping at least a part of the second magnetic layer portion as shown in Figs. 11 and 12.

8. Claims 2, 3, 6-9, 16 and 17 are rejected under 35 U.S.C. 102(b) as being anticipated by Nonaka (US PAT. 4,921,508).

Nonaka teaches a process of making a thin film magnetic head comprising steps of: forming a first magnetic layer portion (5c) extending from recording-medium-facing surface in a longitudinal direction to be away from the recording-medium-facing surface, and having a constant width for defining a write track width of a recording medium as shown in Figs. 1, 3 and 4; and forming a second magnetic layer portion (5b) magnetically coupled to the first magnetic layer portion in the rear edge of the first magnetic layer portion on the side away from the recording-medium-facing surface as shown in Figs. 1, 3 and 4; wherein a coupling position at which the first and second magnetic layer portion are coupled each other is closer to the recording-medium-facing surface than a front edge of the insulating layer (6 as shown in Fig. 1) on the side close to the recording-medium-facing-surface; and at least the portion of the second magnetic layer portion between the front edge of the insulating layer and the rear edge of the first magnetic layer portion has a width wider than that of the first magnetic layer portion as shown in Figs. 1, 3 and 4 (see also col. 2, line 60 to col. 3, line 36).

As per claim 2 a width direction is formed at the coupling position of the first magnetic layer portion and the second magnetic layer portion as shown in Figs. 1, 3 and 4.

As per claim 3 a step face vertical to an extending direction of the first magnetic layer portion is formed at the coupling position as shown in Figs. 1, 3 and 4.

As per claim 6 the one of the two magnetic layers further includes a third magnetic layer portion (4) which is magnetically coupled to the second magnetic layer

portion and extends to cover a part of the thin film coil with the insulating layer in between as shown in Figs. 1, 3 and 4.

As per claim 7 the gap layer (132) has a region with a flat surface and the thin film coil is formed on the flat region of the gap layer and the insulating layer (12) includes an insulating film (13) which covers the whole of the thin film coil and a part of the gap layer as shown in Figs. 1, 3 and 4.

As per claim 8 the position of the front edge of the insulating layer is defined by an edge of the insulating film on the side closer to the recording-medium-facing surface as shown in Figs. 1, 3 and 4.

As per claim 9 the first magnetic layer portion is located on a part of the region with a flat surface of the gap layer and the part of the region being not covered with the insulating film as shown in Figs. 1, 3 and 4.

As per claim 16 the first and second magnetic layer portions are integrally formed in one piece through a series of the manufacturing steps as shown in Figs. 1, 3 and 4.

As per claim 17 the first, second and third magnetic layer portions are integrally formed in one piece through a series of the manufacturing steps as shown in Figs. 1, 3 and 4.

Conclusion

9. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Paul D. Kim whose telephone number is 571-272-4565.

The examiner can normally be reached on Monday-Friday between 7:00 AM to 3:00 PM.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Peter Vo can be reached on 571-272-4690. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).



Paul D Kim
Examiner
Art Unit 3729